

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P834714

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4HI-50-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834714
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-4HI-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

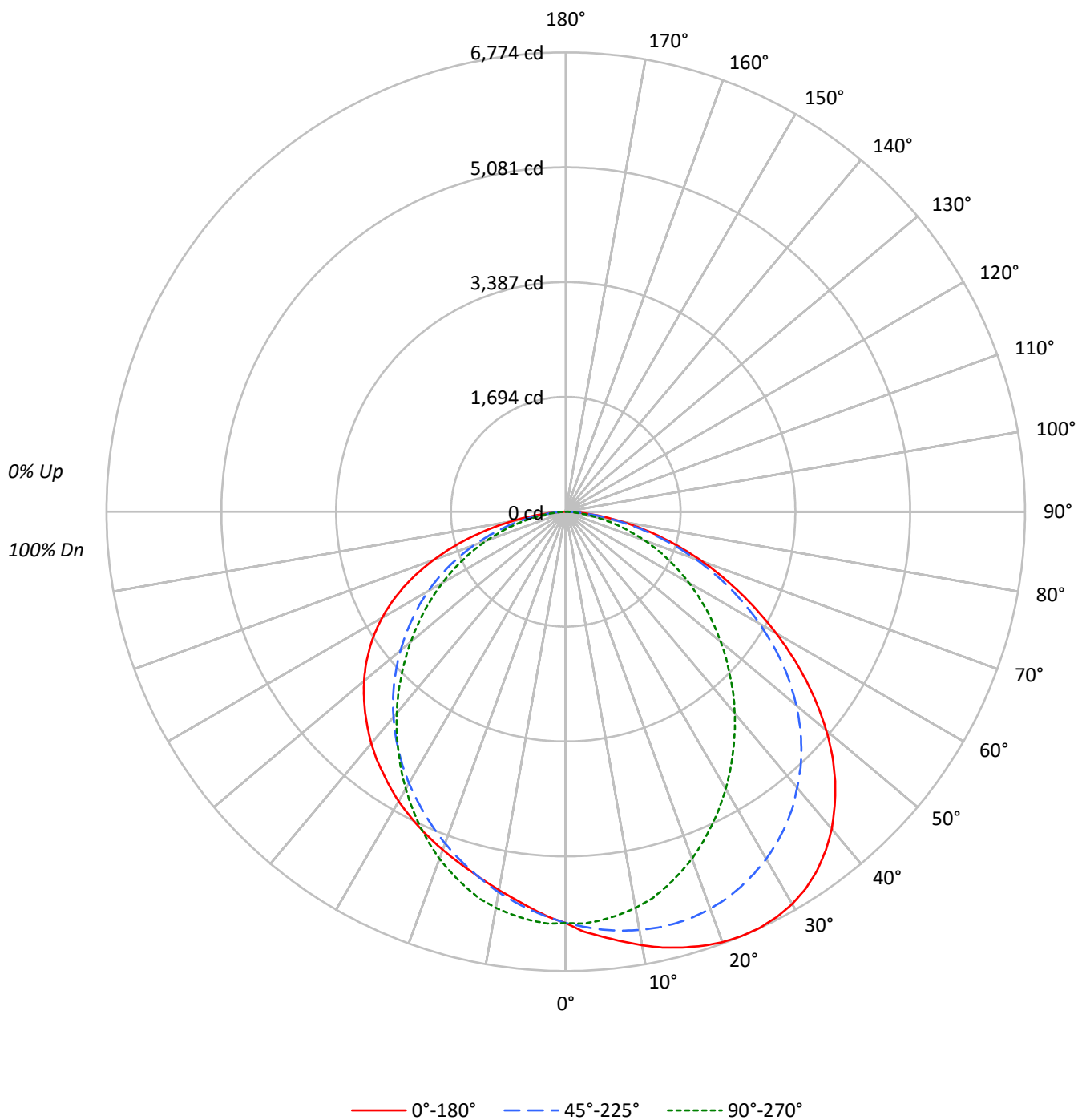
Lumens per Lamp: N/A
Luminaire Lumens: 17839.8 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 176
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	86	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	61	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8160	8160	8160
5°	8496	8164	7923
10°	8867	8103	7739
15°	9266	7973	7628
20°	9671	7797	7596
25°	10051	7571	7608
30°	10378	7334	7657
35°	10615	7072	7721
40°	10722	6810	7835
45°	10693	6523	7963
50°	10503	6249	8128
55°	10144	5961	8297
60°	9650	5654	8422
65°	9061	5309	8411
70°	8433	4897	8161
75°	7656	4300	7525
80°	6574	3533	6347
85°	5014	2414	4360

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	575.2	3.2
10°-20°	1661.1	9.3
20°-30°	2544.8	14.3
30°-40°	3105.6	17.4
40°-50°	3247.8	18.2
50°-60°	2939.4	16.5
60°-70°	2226.1	12.5
70°-80°	1240.6	7.0
80°-90°	299.2	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4781.1	26.8
0°-40°	7886.6	44.2
0°-60°	14073.8	78.9
0°-90°	17839.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17839.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6065	6065	6065	6065	6065	
5°	6290	6185	6045	5896	5866	606
15°	6652	6282	5724	5458	5476	1887
25°	6770	6105	5100	4920	5125	3123
35°	6462	5652	4306	4300	4701	4035
45°	5619	4916	3428	3579	4185	4324
55°	4324	3904	2541	2765	3537	3859
65°	2846	2676	1668	1896	2642	2823
75°	1473	1391	827	988	1448	1562
85°	325	286	156	210	282	391
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8
2.5°	6198.7	6169.5	6145.7	6155.0	6160.3	6141.7	6125.8	6128.4	6112.5	6143.0	6071.4
5°	6290.2	6263.7	6235.8	6246.4	6235.8	6208.0	6185.4	6178.8	6136.4	6153.6	6080.7
7.5°	6392.2	6363.1	6322.0	6333.9	6311.4	6259.7	6230.5	6213.3	6148.3	6149.6	6068.8
10°	6490.3	6465.2	6409.5	6417.4	6376.3	6307.4	6261.0	6237.1	6145.7	6132.4	6048.9
12.5°	6581.8	6547.3	6487.7	6491.7	6432.0	6340.5	6280.9	6246.4	6127.1	6087.3	6005.2
15°	6652.1	6618.9	6547.3	6546.0	6469.1	6349.8	6282.2	6234.5	6083.4	6021.1	5934.9
17.5°	6711.7	6681.2	6592.4	6589.8	6497.0	6345.8	6265.0	6205.3	6019.7	5942.8	5847.4
20°	6754.1	6723.7	6624.2	6614.9	6503.6	6326.0	6229.2	6153.6	5936.2	5844.8	5738.7
22.5°	6774.0	6743.5	6630.9	6617.6	6487.7	6286.2	6177.5	6088.7	5840.8	5721.5	5611.4
25°	6770.0	6740.9	6613.6	6600.4	6457.2	6226.5	6104.6	6002.5	5720.1	5579.6	5470.9
27.5°	6736.9	6714.4	6580.5	6563.2	6401.5	6145.7	6015.8	5903.1	5586.3	5429.8	5311.8
30°	6679.9	6662.7	6520.8	6504.9	6332.6	6056.9	5912.4	5782.4	5441.8	5265.4	5146.1
32.5°	6588.4	6572.5	6429.4	6414.8	6239.8	5942.8	5791.7	5657.8	5284.0	5089.1	4969.8
35°	6462.5	6453.2	6314.0	6298.1	6120.5	5812.9	5652.5	5505.4	5119.6	4899.6	4785.6
37.5°	6296.8	6296.8	6162.9	6145.7	5972.0	5653.9	5496.1	5339.7	4934.0	4700.7	4588.0
40°	6104.6	6121.8	5985.3	5968.0	5799.7	5482.9	5310.5	5146.1	4733.9	4491.3	4381.2
42.5°	5873.9	5889.8	5775.8	5759.9	5602.2	5285.3	5124.9	4946.0	4524.4	4277.8	4163.8
45°	5619.4	5640.6	5538.5	5526.6	5379.5	5069.3	4915.5	4733.9	4305.7	4055.1	3943.8
47.5°	5335.7	5363.5	5274.7	5268.1	5131.6	4847.9	4687.5	4503.2	4076.3	3823.1	3718.4
50°	5017.6	5057.3	4984.4	4984.4	4862.5	4580.1	4440.9	4256.6	3837.7	3584.5	3481.1
52.5°	4676.9	4727.2	4672.9	4674.2	4574.8	4321.6	4177.1	3996.8	3588.5	3339.3	3243.8
55°	4324.2	4373.3	4338.8	4344.1	4265.9	4035.3	3904.0	3725.1	3334.0	3091.4	3001.3
57.5°	3955.7	4008.7	3986.2	3996.8	3942.5	3735.7	3599.1	3442.7	3071.5	2831.6	2754.7
60°	3585.9	3636.2	3624.3	3638.9	3604.4	3425.5	3300.8	3139.1	2807.7	2577.0	2509.4
62.5°	3212.0	3258.4	3255.8	3271.7	3253.1	3104.7	2993.3	2855.4	2534.6	2322.5	2260.2
65°	2846.2	2885.9	2883.3	2900.5	2896.5	2777.2	2676.5	2550.5	2261.5	2066.7	2012.3
67.5°	2490.9	2524.0	2514.7	2534.6	2539.9	2444.5	2357.0	2244.3	2001.7	1812.2	1765.8
70°	2143.6	2166.1	2154.2	2167.4	2179.4	2107.8	2033.5	1934.1	1724.7	1557.6	1519.2
72.5°	1802.9	1818.8	1800.2	1813.5	1824.1	1772.4	1711.4	1625.2	1451.6	1307.1	1275.3
75°	1472.8	1495.3	1456.9	1470.1	1478.1	1426.4	1390.6	1320.3	1170.5	1059.2	1038.0
77.5°	1153.3	1166.6	1145.4	1140.1	1145.4	1108.2	1080.4	1026.0	913.4	821.9	808.6
80°	848.4	856.4	835.2	829.9	833.8	807.3	786.1	746.3	666.8	597.9	592.6
82.5°	568.7	572.7	554.1	548.8	551.5	543.5	518.3	490.5	453.4	395.0	393.7
85°	324.8	324.8	311.5	306.2	308.9	295.6	286.3	271.8	257.2	217.4	220.1
87.5°	119.3	119.3	112.7	111.4	124.6	110.0	106.1	99.4	103.4	82.2	87.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8	6064.8
2.5°	6091.3	6078.1	6066.1	6025.0	6042.3	5999.9	5997.2	5981.3	5969.4	5946.8	5976.0
5°	6071.4	6044.9	6010.5	5961.4	5976.0	5925.6	5915.0	5896.5	5880.5	5851.4	5873.9
7.5°	6039.6	5995.9	5941.5	5879.2	5899.1	5836.8	5820.9	5801.0	5787.7	5753.3	5773.2
10°	5993.2	5930.9	5867.3	5791.7	5806.3	5738.7	5718.8	5697.6	5685.7	5655.2	5675.1
12.5°	5921.6	5846.1	5759.9	5677.7	5693.6	5630.0	5603.5	5580.9	5577.0	5551.8	5575.6
15°	5828.8	5724.1	5635.3	5547.8	5566.4	5492.1	5480.2	5457.7	5464.3	5447.1	5476.2
17.5°	5710.9	5590.2	5493.5	5399.3	5417.9	5355.6	5346.3	5335.7	5342.3	5339.7	5371.5
20°	5578.3	5445.7	5334.4	5241.6	5252.2	5203.1	5207.1	5204.5	5217.7	5232.3	5276.1
22.5°	5428.5	5278.7	5162.0	5066.6	5082.5	5040.1	5058.6	5063.9	5086.5	5119.6	5175.3
25°	5260.1	5099.7	4977.8	4887.6	4902.2	4874.4	4906.2	4919.5	4955.2	5010.9	5067.9
27.5°	5083.8	4914.2	4784.2	4698.1	4725.9	4698.1	4745.8	4772.3	4826.7	4887.6	4957.9
30°	4896.9	4720.6	4586.7	4509.8	4536.3	4511.2	4588.0	4623.8	4678.2	4761.7	4845.2
32.5°	4700.7	4515.1	4383.9	4324.2	4342.8	4338.8	4425.0	4464.8	4537.7	4633.1	4721.9
35°	4499.2	4305.7	4173.1	4122.7	4145.3	4150.6	4254.0	4300.4	4379.9	4495.2	4590.7
37.5°	4291.1	4093.6	3963.7	3922.6	3942.5	3962.3	4083.0	4129.4	4219.5	4345.5	4450.2
40°	4075.0	3877.5	3750.2	3717.1	3737.0	3758.2	3889.4	3953.1	4051.2	4187.7	4301.7
42.5°	3856.3	3658.8	3535.5	3511.6	3531.5	3572.6	3711.8	3771.4	3874.8	4026.0	4151.9
45°	3633.6	3428.1	3320.7	3302.2	3323.4	3371.1	3507.6	3579.2	3689.3	3855.0	3990.2
47.5°	3408.2	3208.1	3106.0	3094.0	3115.3	3168.3	3319.4	3384.4	3501.0	3677.3	3823.1
50°	3180.2	2985.3	2887.2	2883.3	2903.2	2960.2	3104.7	3181.5	3302.2	3499.7	3649.5
52.5°	2949.6	2762.6	2673.8	2673.8	2692.4	2750.7	2896.5	2976.1	3100.7	3308.8	3474.5
55°	2718.9	2541.3	2456.4	2463.0	2489.6	2539.9	2681.8	2765.3	2891.2	3107.3	3282.3
57.5°	2488.2	2319.9	2243.0	2252.3	2277.5	2327.8	2467.0	2561.1	2675.1	2899.2	3078.1
60°	2260.2	2101.1	2033.5	2044.1	2066.7	2117.0	2261.5	2342.4	2456.4	2684.4	2863.4
62.5°	2029.6	1885.1	1821.4	1834.7	1854.6	1904.9	2041.5	2119.7	2232.4	2456.4	2636.7
65°	1801.5	1667.7	1613.3	1626.6	1645.1	1691.5	1820.1	1895.7	2003.0	2221.8	2394.1
67.5°	1576.2	1454.2	1409.2	1422.4	1437.0	1480.7	1586.8	1669.0	1769.7	1977.9	2140.9
70°	1353.5	1244.8	1205.0	1218.3	1231.5	1271.3	1364.1	1439.6	1532.4	1723.3	1874.5
72.5°	1133.4	1027.4	1007.5	1019.4	1030.0	1064.5	1153.3	1213.0	1293.8	1463.5	1593.4
75°	918.7	827.2	813.9	825.9	835.2	861.7	935.9	987.6	1055.2	1202.4	1308.4
77.5°	711.9	635.0	629.7	639.0	648.2	666.8	725.1	779.5	832.5	941.2	1035.3
80°	518.3	456.0	456.0	465.3	462.6	485.2	526.3	570.0	608.5	686.7	755.6
82.5°	342.0	293.0	299.6	306.2	310.2	319.5	344.7	377.8	401.7	449.4	494.5
85°	189.6	156.4	163.1	168.4	165.7	176.3	189.6	209.5	221.4	243.9	267.8
87.5°	70.3	58.3	59.7	63.6	66.3	71.6	71.6	83.5	84.8	87.5	92.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	6064.8	6064.8	6064.8
2.5°	5920.3	5952.1	5976.0
5°	5818.2	5844.8	5866.0
7.5°	5718.8	5742.7	5761.2
10°	5624.7	5651.2	5664.5
12.5°	5527.9	5558.4	5569.0
15°	5432.5	5463.0	5476.2
17.5°	5334.4	5374.1	5388.7
20°	5242.9	5293.3	5305.2
22.5°	5150.1	5201.8	5216.4
25°	5049.4	5110.3	5124.9
27.5°	4942.0	5014.9	5029.5
30°	4834.6	4914.2	4928.7
32.5°	4719.3	4805.4	4818.7
35°	4598.6	4684.8	4700.7
37.5°	4464.8	4558.9	4590.7
40°	4325.6	4427.6	4460.8
42.5°	4179.7	4291.1	4325.6
45°	4023.3	4145.3	4185.0
47.5°	3865.6	4003.4	4037.9
50°	3694.6	3841.7	3882.8
52.5°	3515.6	3676.0	3717.1
55°	3330.0	3491.7	3536.8
57.5°	3128.5	3295.5	3343.3
60°	2917.7	3084.8	3129.8
62.5°	2701.7	2852.8	2896.5
65°	2460.4	2602.2	2642.0
67.5°	2204.5	2334.5	2367.6
70°	1932.8	2045.5	2074.6
72.5°	1649.1	1727.3	1765.8
75°	1356.1	1418.4	1447.6
77.5°	1061.8	1105.6	1129.4
80°	774.2	799.4	819.2
82.5°	506.4	517.0	531.6
85°	273.1	273.1	282.4
87.5°	92.8	88.8	92.8
90°	0.0	0.0	0.0

(END OF REPORT)